



Tetrathionate Bile Brilliant Green Broth

MM1255

Tetrathionate Bile Brilliant Green Broth is used for isolation and identification of *Salmonellae* in accordance with Indian Pharmacopoeia.

Composition**

Ingredients	Gms / Litre
Peptone	8.600
Dehydrated Oxbile	8.000
Sodium chloride	6.400
Calcium carbonate	20.000
Potassium tetrathionate	20.000
Brilliant green	0.070
pH after heating (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 63.07 grams in 1000 ml purified/distilled water. Heat just to boiling. DO NOT AUTOCLAVE OR REHEAT. Dispense as desired.

Note: Due to presence of Calcium Carbonate, the prepared medium forms opalescent solution with white precipitate

Principle And Interpretation

Tetrathionate Bile Brilliant Green Broth is prepared as per the recommendation of Indian Pharmacopoeia (1) for microbial limit tests and isolation-identification of *Salmonella* species from pharmaceutical, foods, water and other materials of sanitary importance.

Peptone provides nitrogenous nutrients to the Salmonellae. Brilliant green and ox-bile inhibit both gram-positive as well as some selected gram-negative organisms while it promotes the growth of *Salmonella*. Potassium tetrathionate inhibits normal flora of faecal specimens. Sodium chloride helps in maintaining osmotic equilibrium. Calcium carbonate neutralizes the acids produced by reduction of tetrathionate.

After incubation streak onto differential medium for isolation and identification. Medium is not suitable for growth of *Salmonella* Typhi and *Salmonella* Paratyphi (2). *Proteus* may proliferate in the medium, which can make the medium less effective.

Quality Control

Appearance

Light yellow to greenish yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Bluish green opalescent solution with white precipitate

Reaction

Reaction of 6.3% w/v aqueous solution after heating. pH : 7.0±0.2

pH

6.80-7.20

Cultural Response

Cultural characteristics observed after enrichment in Broth Medium I at 36-38°C for 48 hours, and then subcultured on Xylose Lysine Deoxycholate Agar (MM031) and incubated at 36-38°C for 24-48 hours.

Cultural Response

Organism	Inoculum (CFU)	Growth	Observed Lot value (CFU)	Recovery	Colour of Colony	Incubation temperature
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Cultural Response

Growth on Xylose-Lysine**Deoxycholate Agar**

<i>Salmonella Typhimurium</i> ATCC 14028	50 -100	luxuriant	25 -100	>=50 %	red with black centres	18 -24 hrs
<i>Salmonella Abony</i> NCTC 6017	50 -100	good-luxuriant	25 -100	>=50 %	red with black centres	18 -24 hrs
<i>Salmonella Typhi</i> ATCC 6539	50 -100	luxuriant	25 -100	>=50 %	Red	18 -24 hrs
<i>Salmonella Enteritidis</i> ATCC 13076	50 -100	luxuriant	25 -100	>=50 %	red with black centres	18 -24 hrs
<i>Staphylococcus aureus</i> ATCC 6538	>=10 ³	inhibited	0	0%		>=24 hrs
<i>Escherichia coli</i> ATCC 8739	50 -100	fair	10 -30	20 -30 %	yellow	18 -24 hrs
<i>Escherichia coli</i> NCTC 9002	50 -100	fair	10 -30	20 -30 %	yellow	18 -24 hrs

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

1. Indian Pharmacopoeia, 2007, Vol. II, Published by the Controller of Publications, New Delhi, Government of India, Ministry of Health and Family Welfare.
2. MacFaddin J.F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.

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